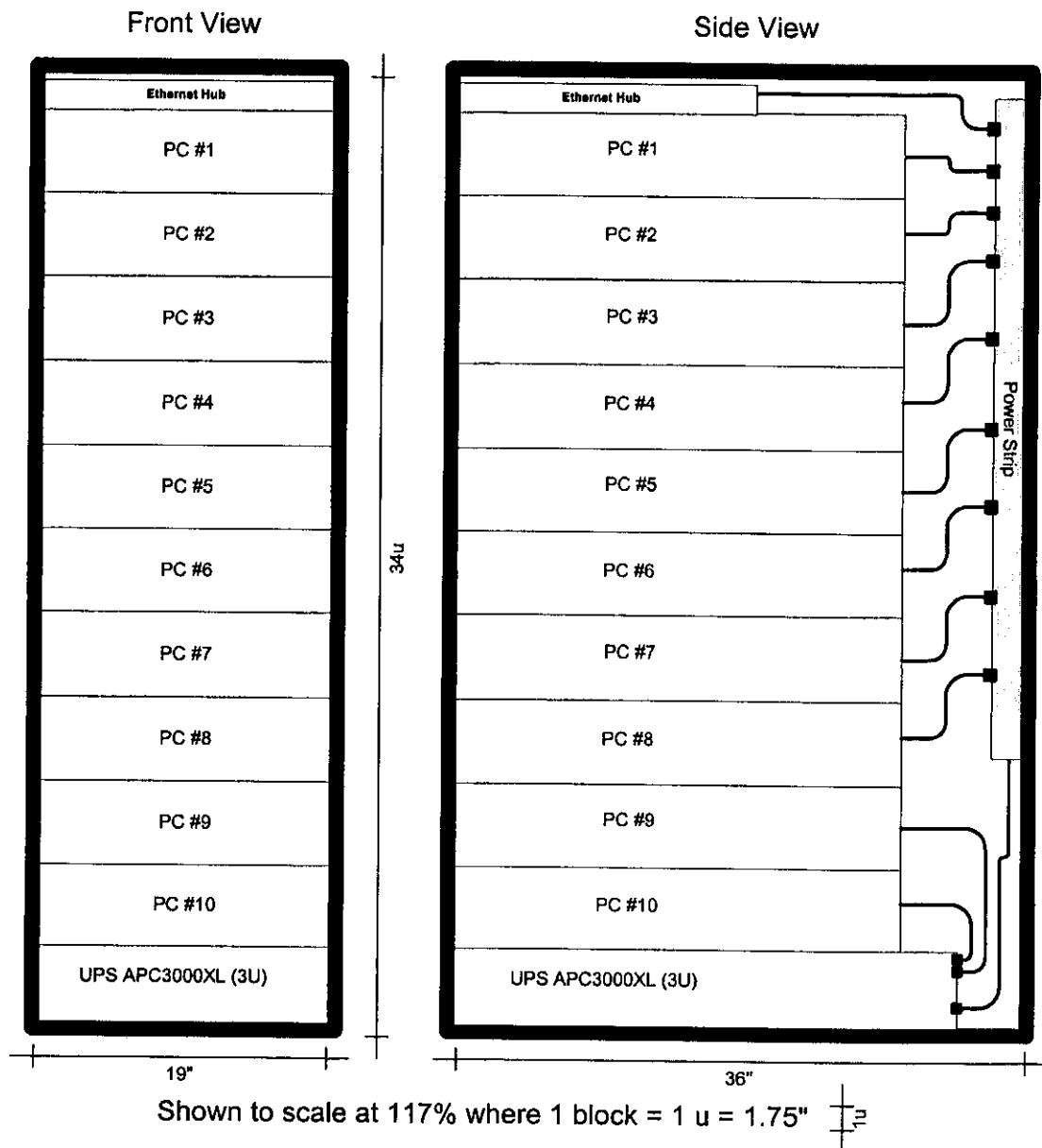# Statement of Work
For Real-Time Simulation Development System Upgrade

Overview

The vendor shall provide all labor, materials, and assembly of one rack of equipment and its associated cables and monitors. Figure 1 shows the general configuration of the rack.

Delivery Schedule

Front View

Side View

| Ethernet Hub |
| PC #1 |
| PC #2 |
| PC #3 |
| PC #4 |
| PC #5 |
| PC #6 |
| PC #7 |
| PC #8 |
| PC #9 |
| PC #10 |
| UPS APC3000XL (3U) |

34u

19"

| Ethernet Hub |
| PC #1 |
| PC #2 |
| PC #3 |
| PC #4 |
| PC #5 |
| PC #6 |
| PC #7 |
| PC #8 |
| PC #9 |
| PC #10 |
| UPS APC3000XL (3U) |

Power Strip

36"

Shown to scale at 117% where 1 block = 1 u = 1.75"   3u

It is desired that one assembled rack as per Figure 1 and its associated monitors and cable sets should be delivered by 1 September 2005 and no later than 1 October 2005.

19" Equipment Rack Description

The rack shall be provided fully assembled with the following salient features:
a. Standard 19" width rack.
b. Usable height of not less than 34U.
c. Usable depth of at least 30".
d. Vented top panel without forced ventilation.
e. Removable side panels.
f. Removable tinted transparent front door (not using glass).
g. Rear door shall be provided.
h. Adjustable front and rear vertical mounting rails shall be provided.
i. 1 pair of adjustable vertical mounting rails shall be provided
j. Rack color will be matte black.
k. 4 heavy-duty casters shall be provided. The 2 front wheels shall swivel and be lockable. The 2 rear casters may be fixed for front-to-back motion.
l. Internal Power Strip with at least 10 outlets
m. Total height of the rack including the casters cannot exceed 76".
n. The rack must be constructed for heavy-duty (minimum of 14 gauge steel frame, 16 gauge side panels, and rails (2 pair included) are made of 12 gauge zinc plated steel), with a minimum capability of supporting 750 lbs of equipment.

Ethernet Switch Requirements

3Com SuperStack 3 Switch 3824 24-port managed Gigabit rack-mounted
Mfg PN: 3C17400-US

(2) 3Com 1000BASE-SX SFP Transceivers
Mfg PN: 3CSFP91

Figure 1.

Personal Computer Requirements

The 10 identical PCs in the rack shall each consist of the following features:

DESCRIPTION	PART NO.	QUANTITY PER PC
3U 19" Rackmount form factor extended ATX chassis with: • Rack-Mounting rails • 550W power supply • 8 x 1" SATA Hot-swap drive bays and carriers • 6 x Full-height, Full-length expansion slots • 1 x Floppy drive bay • 2 x 5.25" Peripheral drive bay	SuperMicro SC833T-550B This item must not be substituted in order to retain parts interchange with existing systems	1
Extended ATX motherboard with: • Dual Intel 64-bit Xeon Support, up to 3.6 GHz • Intel E7520 Chipset • 800 MHz system bus • 2 (x8) PCI-Express slots • 3 64-bit PCI-X slots • 1 32-bit 33 MHz PCI slots • 10 SATA connectors and cables • Dual Intel Gigabit Ethernet Controllers • Onboard Video Controller • PS/2 keyboard output • PS/2 mouse output	SuperMicro X6DHT-G This item must not be substituted in order to retain software compatibility with existing systems. A real-time operating system (purchased separately) requires the features of this motherboard.	1
Intel Xeon 3.60 GHz Processor, 1MB L2 cache	Intel BX80546KG3600EAE	2
1GB MB PC2700 ECC DIMM DDR Registered	any reasonable source	2
160 GB Serial ATA II Hard Drive 7200 RPM w/ Native Command Queuing	any reasonable source	2
Internal DVD +/-R/RW/CDRW Drive Burner with 24" EIDE 3 cable	any reasonable source	1
Floppy Drive: 1.44 MB 3.5" with cable	any reasonable source	1
104 Key PS/2 Keyboard	any reasonable source	1
3-Button PS/2 Mouse w/ Scroll	any reasonable source	1
RJ-45 CAT5e Male to Male cable for connection of PC to Ethernet Hub (6 feet)	any reasonable source	1
Windows XP Professional Operating System w/ Service Pack 2	any reasonable source	1
HP Visual Fortran v6.6 Standard Edition	any reasonable source	1
Microsoft Visual Studio 2005 Professional	any reasonable source	1

Uninterruptible Power Supply Requirements

A 3000KVA UPS shall be located at the bottom of each equipment rack. An American Power Conversions (APC) 3U UPS P/N: SU3000RMXL3U or equivalent is recommended. The 30 amp-rated power input cable of this unit shall be the rack's external power connection. Input power shall be single phase, 120 VAC/60 Hz. A 3-contact twist-lock connector (NEMA L5-30P) shall be used. At least 8 standard 120 VAC/60 Hz outputs shall be available. One output shall be dedicated to the rack's internal power strip. Only maintenance-free sealed Lead-Acid batteries shall be used.

20" Flat Panel LCD Monitor

The LCD Monitor shall have a viewable area of at least 20" and have a resolution compatible with at least 1280X1024 or greater, with a refresh rate of 70 Hz or greater. The monitor at a minimum must have a 1 x 15-pin D-sub analog type VGA connector.

KVM Extension Cables

VGA Plus PS/2 Keyboard and Mouse Male to Female 75 foot cable having the following specifications: Multi-RG59 Cables made with 3 RG59 coax and 4 pairs under one jacket with hand assembled ends Guaranteed 1900 x 1200 resolution through 125 feet.

Recommended part number is Video Products Inc VKMEXT-75

http://www.networktechinc.com/cable-pc.html

Color Laser Printer

HP Color LaserJet 4650dn - 22ppm black and color, 600 x 600 dpi, 160 MB memory, automatic duplex printing, HP Jetdirect 620n Fast Ethernet Embedded Print Server

B/W Laser Printer

HP LaserJet 4250n - 45ppm black, 1200 x 1200 dpi, 64 MB memory, HP Jetdirect Fast Ethernet Embedded Print Server

Additional Automatic Duplexer Unit for two-sided printing (Q2439B)